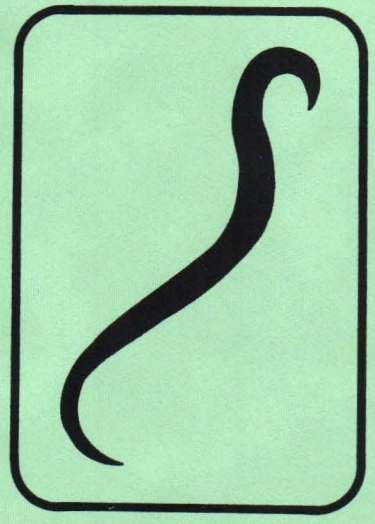
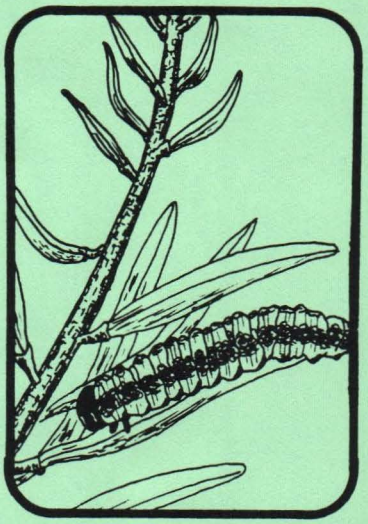
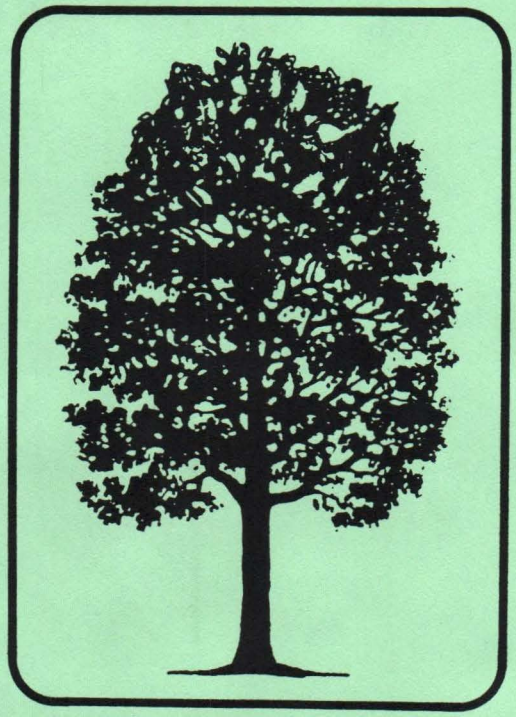
1989 ILLINOIS FOREST PEST REPORT







1989 Illinois Forest Pest Report

Edited by

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March 1990

1989 Illinois Forest Pest Report

1989-90 Illinois Forest Pest Workshops and Exhibits

To keep Illinois foresters better informed on the insects and diseases affecting Illinois forests, annual forestry workshops are held in various districts. In 1988 workshops were held in Oglesby, Champaign, and Benton, IL. At the workshops emphasis was placed upon field recognition of the economically important tree insects and diseases. Cultural, biological, and chemical control measures are discussed.

A pine wilt disease educational exhibit was shown at the Du Quoin and the Illinois State Fairs. The exhibit featured colored photographs of pine trees showing disease symptoms, nematodes, and the larva and adult of the Carolina pine sawyer. Freeze-dried specimens of the larva and adult of the Carolina pine sawyer were also shown. A leaflet was distributed which described the symptoms of the disease, the casual agents, the insect vector life history, and control.

At the Mid-Am Trade Show Jan 19-22, 1990 in Chicago an educational exhibit was presented which featured specimens and colored photographs of the Zimmerman pine moth, eastern spruce gall adelgids, European pine sawflies, bronze birch borers, eastern tent caterpillars, and Carolina pine sawyers. A three paged leaflet describing the life history and control of each of the insects was handedout to anyone showing interest in the exhibit. The Mid-Am Trade Show is the largest nurserymens' trade show in the United States. Thousands of people attend that are associated with nursery and the urban forestry trade.

Maps of Forest Insects

This report presents information on insects and diseases of forest and urban forestry trees. Maps are presented which summarize the

distribution of forest and urban forestry insects which have been reported for the years 1987, 1988, and 1989.

If an insect specimen has been verified and deposited in the Illinois Natural History Survey (NHS) insect collection, that county has the NHS designation. This information may be of value to researches wishing to construct regional or national distribution maps of insect species.

Persons wishing to send insect specimens that might be added to the insect collection should include the following information with the specimen: date of collection, county and nearby city, host plant, and collector's name.

The map legend used in the report is as follows:

1987

1988

1989

NHS - Voucher specimens from this county reside in the Illinois Natural History Survey Insect Collection. Any combination of the designated map legend patterns may occur on the county map.

Persons contributing insect reports are from the Illinois Departments of Conservation, Agriculture, Natural History Survey, University of Illinois, and members of the Illinois Christmas Tree Growers Association.

For comments on this report concerning insects contact: James E. Appleby, Entomologist, Illinois Natural History Survey, 607 E. Peabody Drive, Champaign, IL 61820. Phone: 217-244-3431.

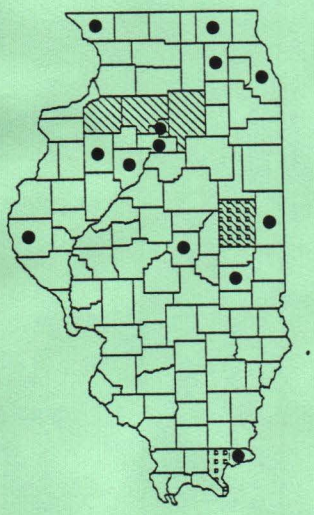
For information concerning tree diseases contact: Walker Kirby, Plant Pathologist, N531 Turner Hall, 505 S. Goodwin, Urbana, IL 61801. Phone: 217-333-8414.

Tree Insects in Illinois

by
James E. Appleby
Illinois Natural History Survey
Illinois Agricultural Experiment Station

Deciduous Tree Pests

Walnut Caterpillar

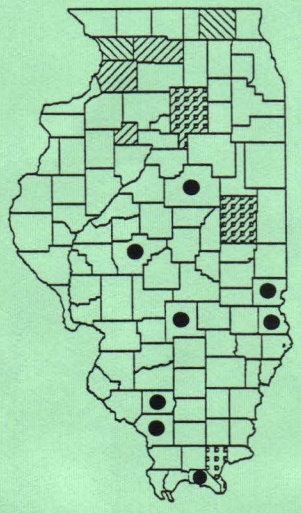


Walnut Caterpillar (Datana integerrima)

Moderate infestations of the walnut caterpillar were observed during 1989. In a few instances complete defoliation occurred on some trees by early August. The continued drought the past several years and the defoliation caused by this insect has weakened the trees. Walnut growers are advised to keep trees in a vigorous growing condition to avoid secondary pests such as trees borers.

Contributor: Jim Appleby.

Elm Leaf Beetle

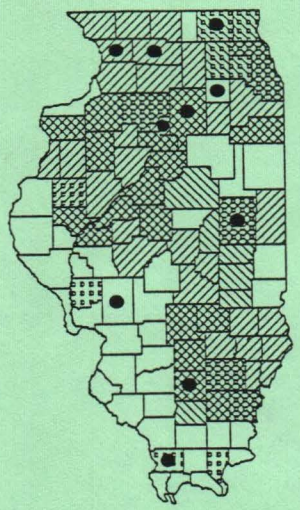


Elm Leaf Beetle (Pyrrhalta luteola)

Leaf damage to elms in urban areas was again severe as in 1987 and 1988.

Contributors: Jim Appleby, Mark Brown, Ralph Eads, George Poe, and Randy Timmons.

Eastern Tent Caterpillar

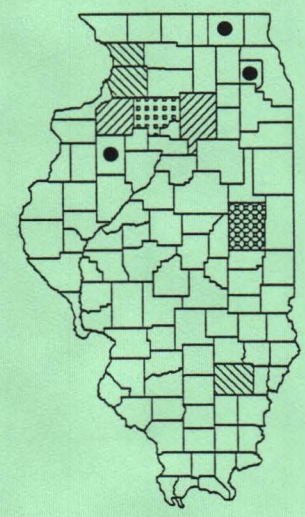


Eastern Tent Caterpillar (Malacosoma americanum)

This insect was exceedingly abundant throughout the entire state. The 1989 season is the third consecutive season in which populations have been very high. Complete defoliation of black cherry was evident almost everywhere in the state. Crabapple and apple trees were also infested, but not to the extent of black cherry. Historic records generally indicate that this insect is usually abundant for two or three consecutive years followed by a year when the population is low. Black cherry trees seem to withstand infestations of this insect without much lasting damage, therefore control measures are not needed.

Contributors: Jim Appleby, Kurt Bobsin, Mark Brown, E. Dale Donahoo, Ralph Eads, Stephen Felt, Tom Gargrave, Grant Haley, David Johnson, Bill Keyth, Barrie McVey, George Poe, Joseph Roust, Matt Siemert, Randy Timmons, and Tony Wagner.

Bronze Birch Borer

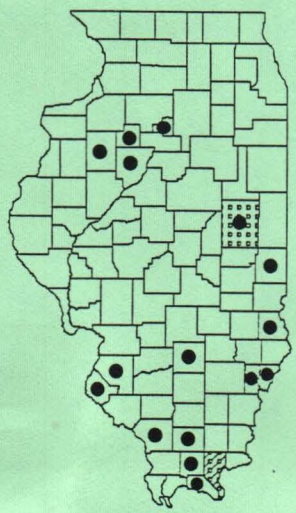


Bronze Birch Borer (Agrilus anxius)

The droughts of 1988 and 1989 have caused severe weakening of ornamental birch trees. Such weakened trees are extremely vulnerable to bronze birch borer attack. Infested trees that lack care are often dead in 2 to 3 years. It is very important that birch trees be mulched, fertilized, and during drought periods be watered. Chlorpyrifos (Dursban) spray applications in early June, late June, and mid July with proper tree care are practices that will reduce the chances of borer infestations. Moderate infestations were reported throughout the northern half of Illinois.

Contributors: Jim Appleby, Mark Brown, Stephen Felt, and Randy Timmons.

Mimosa Webworm



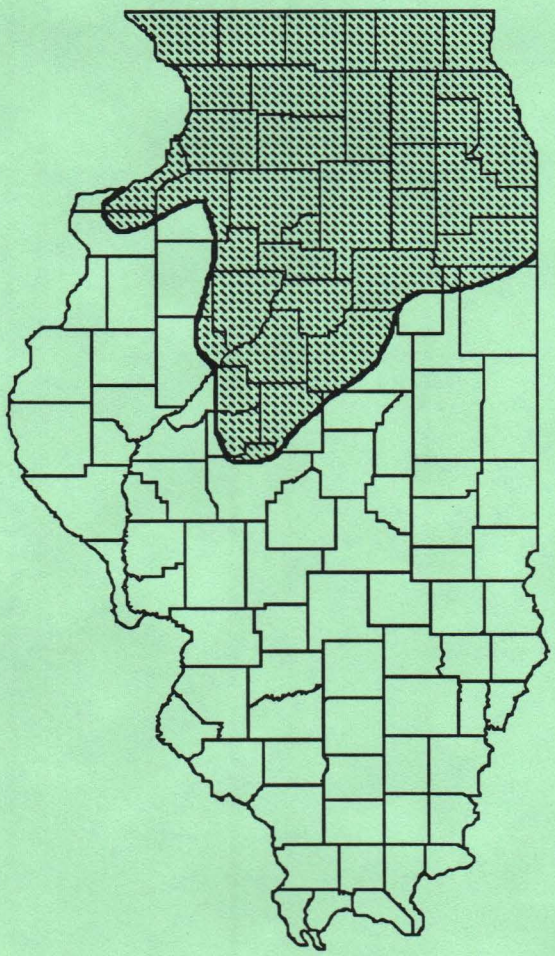
Mimosa Webworm (Homadaula anisocentra)

At least for the past three years populations of this insect have been extremely low. Many years ago the webworm was very destructive to ornamental honey locust and mimosa trees in southern and central Illinois. At one site in Pope county a moderate infestation was observed on a single mimosa tree.

Periodical Cicada (Magicicada septendecim)

The map below indicates the area of Illinois that may have a major emergence of the cicada in 1990. Tree damage is caused by the female cicadas when they deposit their eggs within the tree branches. Small branches often die after the cicada has deposited the eggs. On large trees numerous dead outer branches will be noted during the summer months. The greatest damage occurs on small trees that cannot tolerate the loss of many of their limbs. In some instances small trees may need to be protected from the cicadas. The insecticide cyfluthrin (Tempo 2 Ornamental Insecticide) is registered for use on trees. Cyfluthrin is highly toxic to bees and very highly toxic to fish. This insecticide may have to be applied at intervals of 10 days or as needed during the three week period when most egg laying occurs. Be sure to read and follow all directions on the insecticide label.

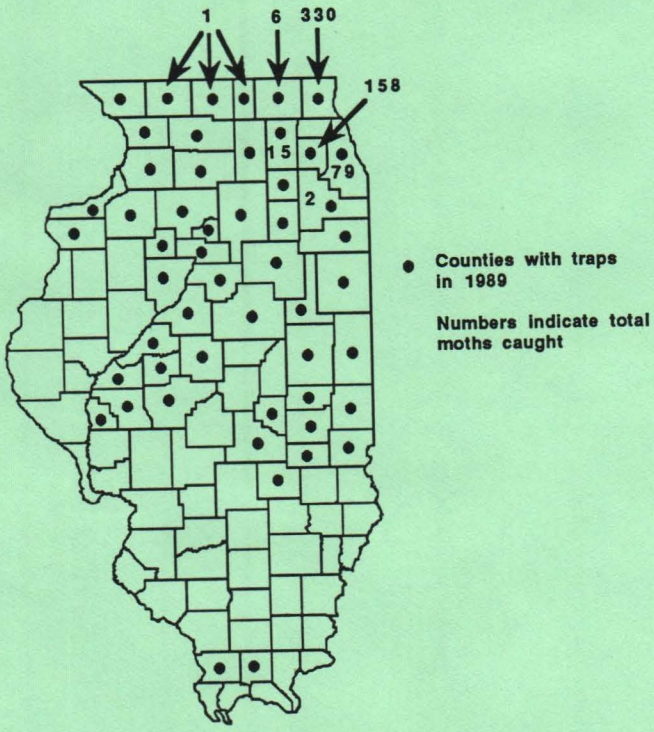
Expected Area of Emergence for the Periodical Cicada in 1990



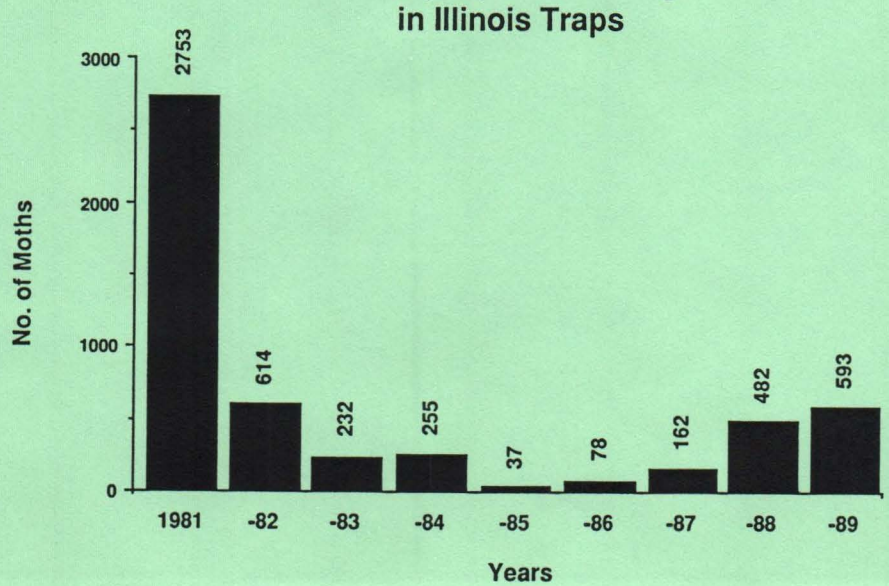
Gypsy Moth (Lymantria dispar)

For the past five years there has been an increase in the number of gypsy moths caught in traps set throughout Illinois. In some instances, a high number of moths caught might be attributed to a flight of male moths on strong wind currents from known infestations in neighboring states. In 1989 there were only 3 Illinois counties where traps had caught more than 50 moths. Personnel of the Illinois Department of Agriculture have used mass trapping, surveys, and Bacillus thuringiensis spray applications to suppress the gypsy moth in Illinois.

593 Gypsy Moths Caught in Illinois in 1989

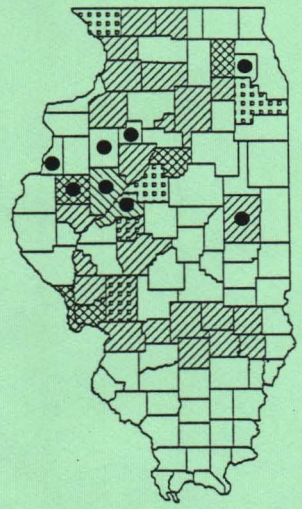


Total Gypsy Moths Caught in Illinois Traps



Evergreen Insect Pests

European Pine Sawfly

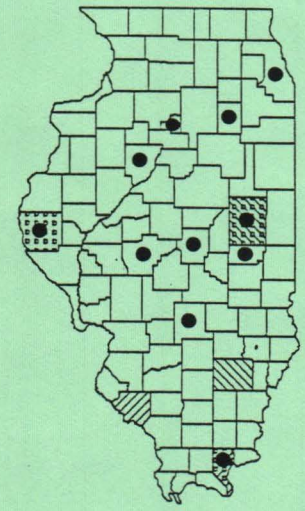


European Pine Sawfly (Neodiprion sertifer)

Moderate to high infestations of the sawfly were reported in pine plantations. Most reports indicated moderate infestations on Scotch and red pines. Control is easily accomplished with insecticide treatments applied when the larvae are small and needle damage at a minimum. Plantations should be inspected for infestations at weekly intervals during April and early May. Bacillus thuringiensis applications will not control this insect.

Contributors: Jim Appleby, Mark Brown, E. Dale Donahoo, Ralph Eads, Stephen Felt, Tom Gargrave, Grant Haley, Bill Keyth, Mark Kock, Tom Lamer, Barrie McVey, George Poe, Mike Reichenback, Joseph Roush, Dan Schmocker, Matt Siemert, Pete Skuba, Randy Timmons, Tony Wagner, and Tom Wilson.

Bagworm

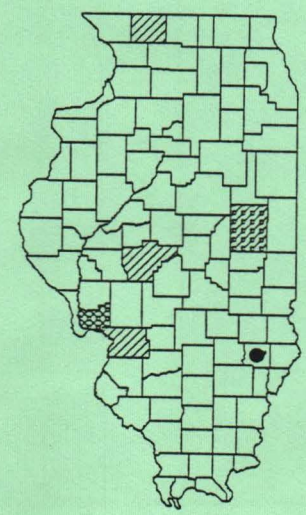


Bagworm (Thyridopteryx ephemeraeformis)

Light to moderate infestations were reported. In general the populations seem to be lighter than in former years. Bacillus thuringiensis applications are very effective in controlling this insect if applied just after all the overwintering eggs have hatched, which is generally late May or early June.

Contributors: Jim Appleby, and Tom Seals.

Pine Needle Scale

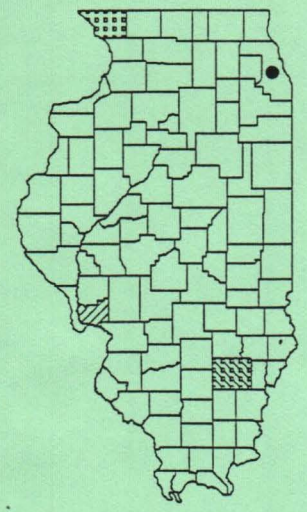


Pine Needle Scale (Chionaspis pinifoliae)

In 1988 only one report was received indicating only a moderate infestation. In 1989 several reports were received and they indicated mostly light to a few moderate infestations. Populations of this insect have remained relatively low for 1988 and 1989. Control of this scale can be obtained with a spray of malation or diazinon applied in mid-May after all the overwintering eggs have hatched.

Contributors: Jim Appleby, Ralph Eads, Mark Koch, Tom Lamer, and Dan Schmocker.

Pine Bark Aphid

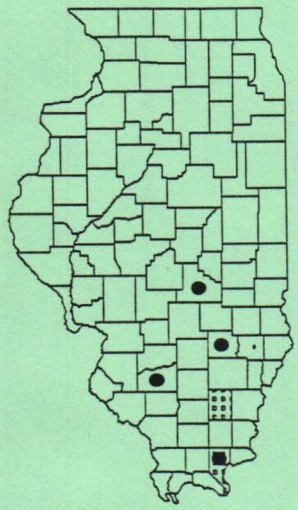


Pine Bark Aphid (Pineus strobi)

Only one report of this insect was indicated in 1989 and the infestation was rated as moderate. This insect can cause extreme stunting of white pine seedlings. Trees that are 7 ft. tall or more are usually unaffected even with moderate infestations. Spray applications of malathion or diazinon applied in mid to late March have given good control.

Contributor: Tom Lamer.

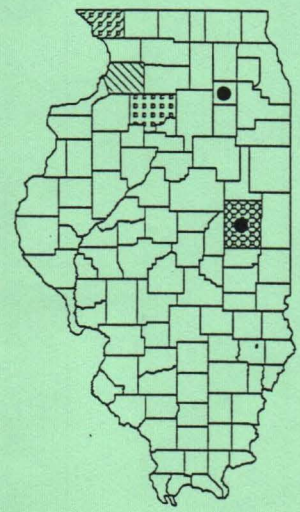
Redheaded Pine Sawfly



Redheaded Pine Sawfly (Neodiprion lecontei)

No reports were received concerning infestations of this sawfly in 1988 or 1989. In 1987 reports indicated moderate to heavy infestations on Scotch and shortleaf pine in southern Illinois.

Zimmerman Pine Moth



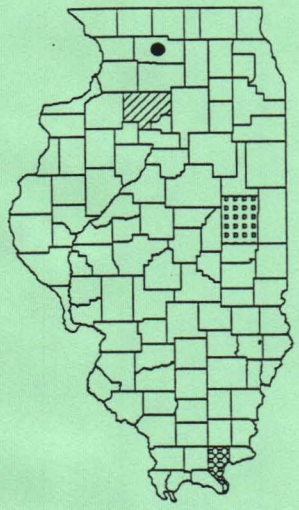
Zimmerman Pine Moth (Dioryctria zimmermani)

Moderate to heavy infestations of this moth in Scotch, red, and white pine plantations occurred in 1989. Entire branches and often the terminal leader may die on trees with heavy infestations. Chlorpyrifos (Dursban) spray applications in early August and /or late March and early April have shown to give good control.

Contributors: Jim Appleby, and Ralph Eads.

Pales Weevil (Hylobius pales)

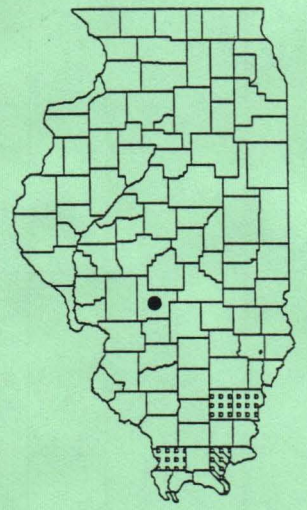
Pales Weevil



In pine plantations where harvesting has occurred for several years and pine stumps remain with no treatments, this insect can be a very serious pest. High mortality of seedling trees and severe damage to the branches of larger trees can occur with moderate populations of this insect. Spray applications of chlorpyrifos (Dursban) applied as a stump treatment in early to mid March is advisable if a grower has had problems with this weevil. This same chemical should be applied as a foliar spray just after planting seedlings. In mid-July a chlorpyrifos spray should be applied to the seedlings to protect them from newly emerging adult weevils. Moderate infestations were reported for 1989.

Contributors: Jim Appleby, Mark Brown and Randy Timmons.

Nantucket Pine Tip Moth

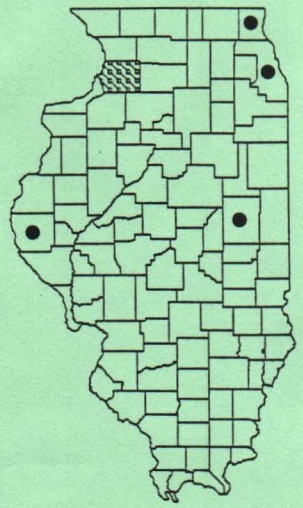


Nantucket Pine Tip Moth (Ryacionia frustrana)

Shortleaf and Scotch pine plantations in southern Illinois continue to have serious infestations of the tip moth. Seedling trees are deformed due to the killing of the terminal buds. A spray application of dimethoate (Cygon 2E) applied in late April will give good control.

Contributor: Jim Appleby.

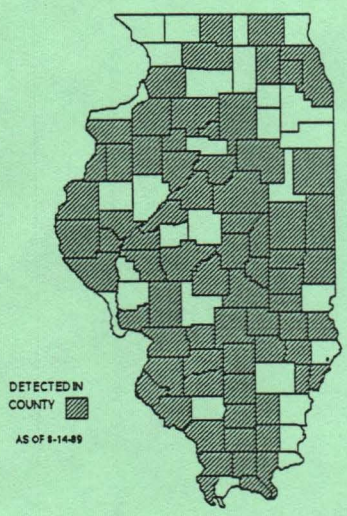
European Pine Shoot Moth



European Pine Shoot Moth (Rhyacionia buolian)

No reports were received for this insect in 1989. In 1988 a single report of a high infestation was the only report received. A single foliar spray application of dimethoate (Cygon 2E) applied in early July has give good control.

Pinewood Nematode



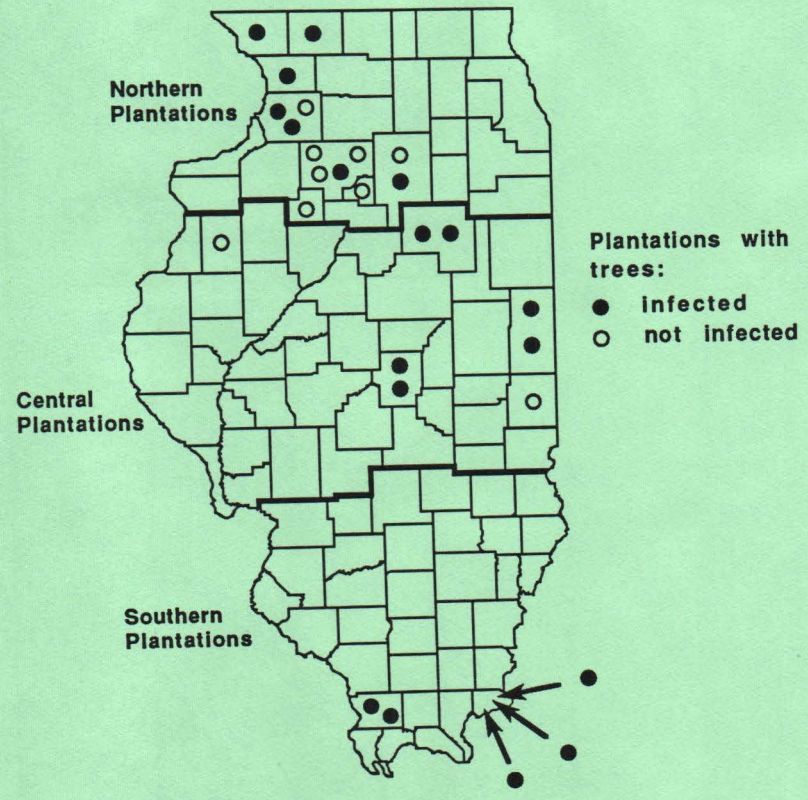
Pinewood Nematode (Bursaphelenchus xylophius)

Scotch, red, and Austrian pines coninue to die throughout the entire state. Central and southern Illinois appear to have the most serious problems with this nematode. Pine trees that die of pine wilt are usually infested with high populations of Ips sp., northern pine weevils, pales weevils, and longhorned beetles. The Carolina pine sawyer, Monochamus carolinensis, is the primary insect vector of the pinewood nematode in Illinois. Nematode-infected beetles often emerge from trees that have died of pine wilt disease. These beetles will then feed on healthy pines, and while feeding the nematodes leave the beetles' bodies and enter the pine through the feeding wounds. Dead pines should be removed as soon after death as possible and the wood destroyed to prevent beetle emergence. Beetle emergence begins in late May and continues until early August.

1989 Illinois Walnut Canker Survey

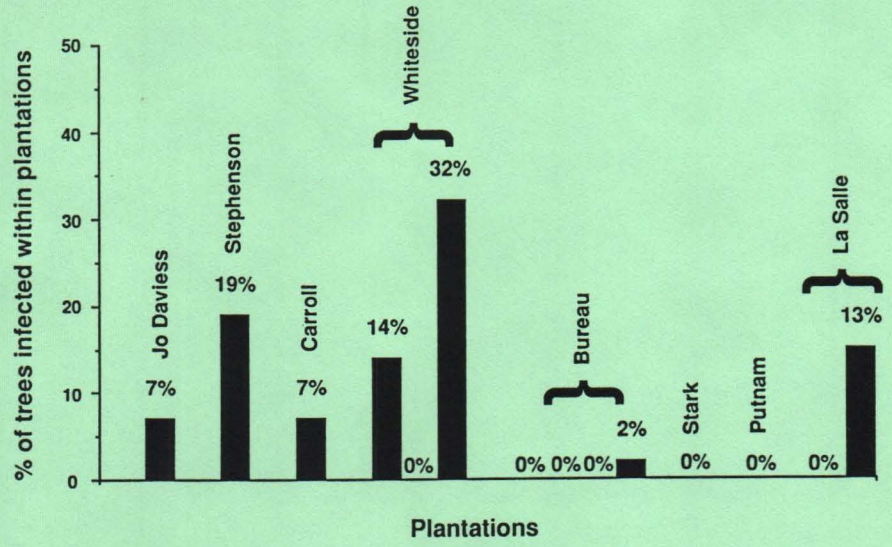
A cooperative study between the states of Illinois, Iowa, Minnesota, Missouri and Wisconsin was initiated in the summer of 1989 to study the incidence of walnut canker in black walnut plantations. In Illinois a total of 27 plantations were surveyed. Of the 27 plantations, 9 plantations had no cankers, and within the 18 that had cankers the highest percentage incidence was 32%.

The plantations in northern, central, and southern Illinois counties had an average percentage incidence of cankers of 6.7%, 9.1% and 5.4% respectively. Complete survey statistics will be summarized in the Wisconsin report. The map below shows the location of the Illinois plantations surveyed.

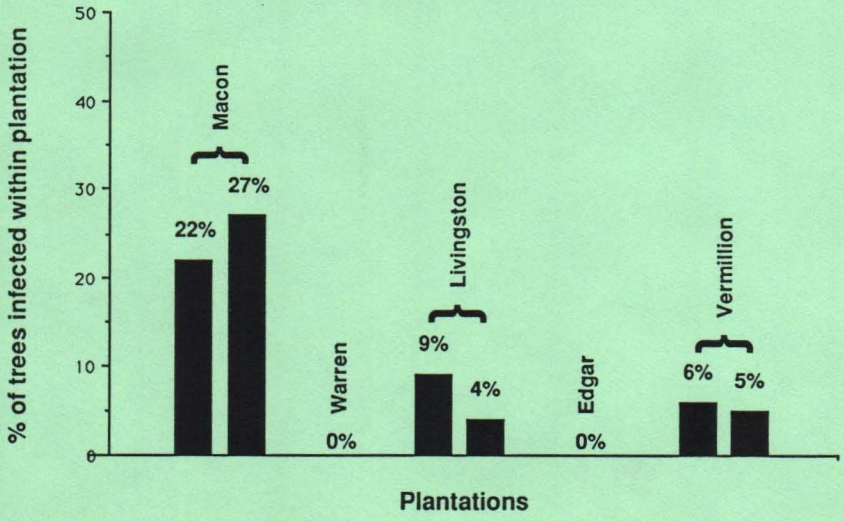


Incidence of Black Walnut Canker in Illinois Counties

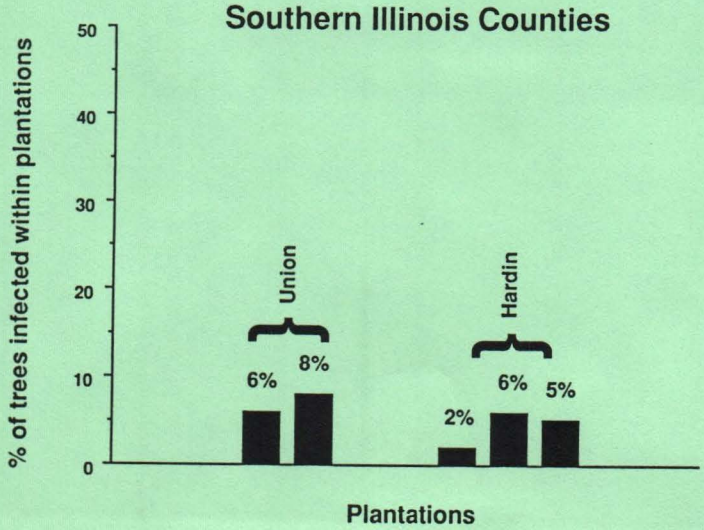
Northern Illinois Counties



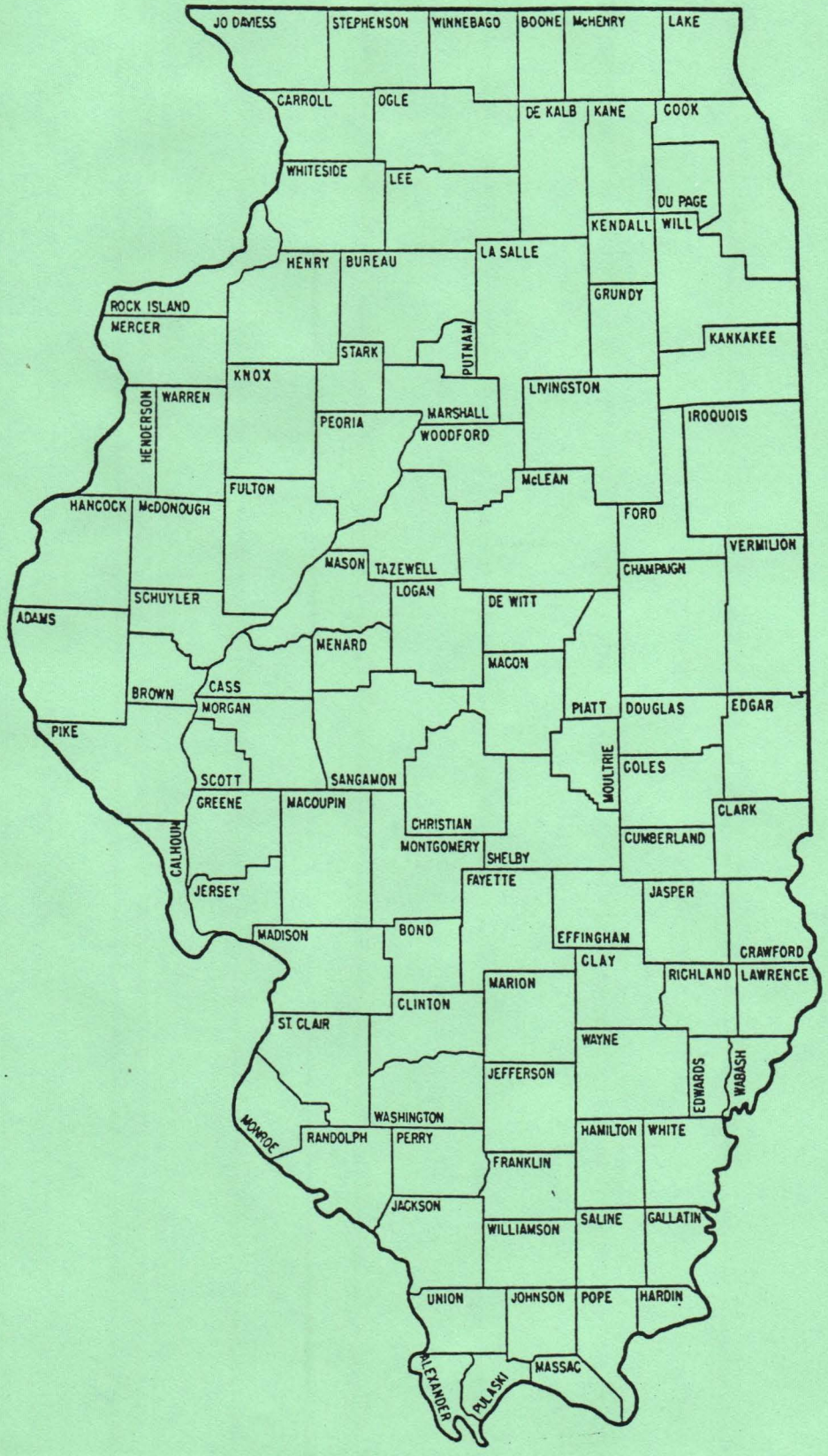
Central Illinois Counties



Southern Illinois Counties



State Map of Illinois with County Names



Tree Problems Diagnosed at the University of Illinois Plant Clinic -- 1989

Dr. Walker Kirby, Nancy R. Pataky
University of Illinois
Plant Pathology Dept.

The following is a listing of all tree problems diagnosed at the University of Illinois Plant Clinic in 1989. The list does not represent a statistical sampling of the tree diseases found in Illinois. The samples are not solicited and usually represent significant problems and disorders. Therefore, this list may not accurately reflect all minor problems within the state.

The numbers in parentheses represent the total number of samples submitted. We have included totals by host (ex. Apple[17]) as well as totals for individual problems for each host (ex. Scab of Apple [3]). If there is no number following the host or problem, it can be assumed that the problem was reported only once.

Tree Host	Problem	Illinois County
Apple (17)	Chemical injury	Vermilion
	Cedar Apple Rust(2)	DeKalb, Monroe
	Environmental stress(4)	Champaign, Cook, Crawford, Vermilion
	Fire Blight (2)	Champaign (2)
	Phyllosticta Leaf Spot	Grundy
	Powdery Mildew (2)	Champaign, Tazewell
	Pseudomonas Blast	Grundy
	Rosy Apple Aphid	Cook
	Scab (3)	Champaign, Cook, Vermilion
Arborvitae (4)	Environmental (4)	Bureau, Champaign, Sangamon (2)
Ash (20)	Anthracnose (4)	Adams, Clark, Douglas, Knox
	Aphids	Mercer
	Ash Decline Suspect(4)	Cass, Carroll, Knox, Macon
	Environmental (6)	Calhoun, Douglas, Kane, McLean, Vermilion, Whiteside
	Flower Gall	Tazewell
	Nectria Canker	LaSalle
	Phomopsis Canker	Champaign
	Plant Bug	Douglas
	Verticillium Wilt	Livingston
Beech	Yellow Neck Caterpillar	Champaign
Birch (6)	Anthracnose	Cumberland
	Borers	Stephenson
	Drought (3)	Champaign(2), Stephenson
	Stress Canker	Grundy
Bradford Pear(9)	Cicada injury	Douglas
	Environmental (8)	Adams(3), Champaign, Douglas,

		Ford, Jefferson, St.Clair
Buckeye	Leaf Scorch	Champaign
Catalpa (2)	Verticillium Wilt(2)	DuPage, McLean
Crabapple (15)	Fireblight (2)	Bureau, Peoria
	Leafhopper feeding	McHenry
	Scab (12)	Champaign(4), Crawford, Ford(4) Moultrie, Peoria, Piatt, Sangamon
Dogwood (9)	Environmental (8)	Adams, Champaign(2), Crawford, Edwards, Mercer, Stephenson, Vermilion
	Leaf Miner	Vermilion
Douglas Fir(2)	Environmental (2)	Champaign, Sangamon
Elm (21)	Chemical injury	Knox
	Dutch Elm Disease(14)	Boone, Champaign, Cook(3), Lake, LaSalle, McHenry(2), McLean, Ogle, Piatt, Sangamon, Will
	Elm Leaf Beetle	Champaign
	Environmental (3)	Knox, Marshall, McLean
	Sphaeropsis Canker	Livingston
	Wetwood	Champaign
Fir (5)	Environmental (5)	Bureau, Lake, LaSalle, Macon, Vermilion
Ginkgo	Environmental	DuPage
Goldenraintree	Stress Canker	Macon
Hackberry (2)	Psyllid Gall	Champaign
	Virus(Island Chlorosis)	Whiteside
Hawthorn (2)	Hawthorn Leaf Spot	Kankakee
	Heat/Drought stress	Champaign
Hickory (2)	Fungal Leaf Spot	Ogle
	Pecan Bunch suspect	Montgomery
Honeylocust (3)	Environmental	Champaign
	Stress canker (2)	Macon, Stephenson
Kentucky Coffeetree	Heart Rot	Champaign
Linden (3)	Cytospora Canker	Champaign
	Environmental	Champaign
	Iron Chlorosis	Montgomery
Magnolia	Freeze injury	DeKalb

Maple (87)	Anthracnose (21)	Adams, Bureau, Champaign (3), Hamilton, Henry (2), Iroquois, JoDaviess, Kane, Lee (2), Marshall-Putnam(2), McDonough(2), Monroe, Ogle, Wayne (2)
	Borers	Lake
	Environmental (31)	Adams, Boone, Champaign(8), Cook(3), DuPage, Effingham, Fulton, Grundy(3) Johnson, Kane, Knox, Lake(2), LaSalle, Menard, Moultrie, Rock Island(2), Sangamon, Wayne
	Graft Incompatibility	Sangamon
	Iron Chlorosis	Ogle
	Leafhopper, thrips(5)	Champaign, Cook, DeKalb, Grundy, McHenry
	Leaf Miner	Champaign
	Maple Decline Suspect	Douglas
	Ozone injury	Cook
	Salt injury	Cook
	Stress Cankers(3)	Cook, Logan, Wayne
	Verticillium (20)	Champaign(4), Cook(7), DeKalb, DuPage(2), JoDavies, Lake, LaSalle (3), McHenry
Mountainash(3)	Stress Cankers (3)	Champaign (2), Cook
Oak (56)	Anthracnose (3)	Carroll, Champaign (2)
	Bladder Galls	Mason
	Chemical drift (3)	Bureau, LaSalle, Vermilion
	Environmental (11)	Cook(3), Kane, LaSalle, Macon, Monroe, Peoria, Pike, St. Clair, Winnebago
	Fall Webworm	Champaign
	Horned Oak Gall(2)	McLean, Moultrie
	Hyvar Chemical injury	Douglas
	Insects/Sooty Mold	Ogle
	Iron Chlorosis (5)	Champaign(2), Grundy, Peoria, St.Clair
	Oak Wilt (2)	DuPage, Kane
	Oak Wilt suspect(16)	Cook, DuPage, Grundy, LaSalle, Lee, McHenry, Winnebago
	Potato Leafhopper	Wabash
	Succulent Oak Gall(2)	LaSalle, Mercer
	Stress Cankers (6)	Cook, Peoria, Rock Island (3), Vermilion
	Wood Rot	Cook
Peach (2)	Bacterial Leaf Spot	Knox
	Environmental	White
Pear (4)	Blister Mite Gall	Mercer
	Environmental (2)	Adams, Christian
	Pseudomonas Blast	Champaign

Pecan	Scab	Montgomery
Pine (90)	Diplodia Tip Blight(2)	Cook, LaSalle
	Eastern Gall Rust	Winnebago
	Environmental (35)	Carroll, Champaign(2), Christian, Clinton, Cook(3), DeKalb, DuPage, Edwards, Ford, Franklin, Henry, Knox, Lake(2), Lee, Livingston, Macon, Madison, Marion, Monroe, McDonough, McHenry, Piatt, Rock Island, Shelby(2), Stephenson, St.Clair(2), Will, Winnebago(2)
	Ips Bark Beetle	Mason
	Mechanical	Champaign
	Needle Rust	Will
	Northern Pine Weevil(2)	Crawford, Shelby
	Pinewood Nematode Tested Negative (28)	Champaign, Cook(10), Douglas, DuPage(2), Ford, Kendall, Lake(2), LaSalle, Lee, Logan, Macon (2), Mason, McHenry, McLean, Will, Winnebago
	Pinewood Nematode Tested Positive (12)	Adams, Cook, DuPage (4), Henderson, Lee, Macon, McLean, Warren, Will
	Salt Injury	McDonough
	Sawfly (2)	Kane, McHenry
	Verticicladiella Decline	Logan
	White Pine Decline	DuPage
	Zimmerman Pine Moth(2)	Ford, Vermilion
Plum	Bacterial Leaf Spot	Mason
Poplar (2)	Basal Canker	Coles
	Environmental	Monroe
Redbud (8)	Chemical Injury (2)	Piatt, Tazewell
	Scorch (4)	Champaign (4)
	Verticillium Wilt(2)	Champaign, Cook
Russian Olive	Fusicoccum Canker	Champaign
Sassafras (3)	Anthracnose	Champaign
	Botryosphaeria Canker	St.Clair
	Weevil	Champaign
Smoketree (2)	Root injury	Cook
	Verticillium Wilt	McHenry
Spruce (50)	Cytospora (12)	Carroll, Champaign(2), JoDaviess(2), Lake(3), LaSalle(2), Peoria, Whiteside
	Environmental (34)	Adams, Boone, Carroll, Champaign(5), Cook(2), Crawford, Fayette, Ford,

		JoDaviess(2), Knox(2), Lake(2), Livingston, Menard, McHenry(2), Ogle Peoria(4), Perry, Shelby(2), Stephenson, Tazewell(2), Vermilion, Will
	Herbicide Injury	Lake
	Mechanical Injury(3)	LaSalle, Livingston, Marshall-Putnam
Sumac	Seimatosporium Leaf Spot	Cook
Sweetgum (3)	Environmental (2)	St.Clair (2)
	Chemical injury	McDonough
Sycamore (2)	Anthracnose (2)	Knox (2)
Tuliptree (7)	Anthracnose	Cook
	Aphids/Sooty Mold(2)	Edgar, Randolph
	Environmental (4)	Cook, Edgar, Livingston, Peoria
Walnut (3)	Anthracnose (2)	Cumberland, Douglas
	Bacterial Blight	Edwards
Willow	Cytospora Canker	Peoria